October 2003

Opportunistic Use of Bonnet Carre Spillway (PO-26)

Project Status

Approved Date: 2000
Approved Funds: $150,706
Project Area: 13,583 acres
Total Est. Cost: $1.1 M

Net Benefit After 20 Years: 177 acres
Status: Engineering and Design
Project Type: Water Diversion

Location

The Bonnet Carre Spillway is located between Lake Pontchartrain and the Mississippi River in St. Charles Parish, Louisiana.

Problems

Lake Pontchartrain has become more saline since construction of the Mississippi River Gulf Outlet (MRGO). Since 1963, over 30,000 acres of marsh in the Pontchartrain Basin have converted to a more saline marsh type. This higher salinity is stressing marshes and adjoining swamps and, in all probability, increasing their loss rate. The area around Bayou LaBranche lost 4,640 acres of wetlands between 1932 and 1990. Over 70% of this loss was between 1956 and 1974, the period when the MRGO and Interstate 10 were built and Hurricane Betsy inundated the area. The project area is estimated to lose an additional 340 acres over the next 20 years without remediation.

The Bonnet Carre Spillway timber pins will be pulled for opportunistic use of the structure.

Restoration Strategy

The main objective of the project is to decrease salinities in Lake Pontchartrain and the surrounding marshes, especially LaBranche, and to add nutrients and some sediment to these marshes and swamps.

The Bonnet Carre Spillway is a floodway already used to redirect excess flows from the Mississippi River into Lake Pontchartrain to alleviate flooding downstream. The structure consists of a concrete weir with wooden pins that, when lifted, allows river water to flow into an area confined by guide levees. It is possible that water from the use of the spillway would also have a positive affect on areas northwest of the project area; however, only LaBranche wetlands currently benefit. The spillway structure already leaks and provides some fresh water to the surrounding marsh, but this project will more opportunistically use the structure by increasing the frequency and duration of flows to benefit the adjacent marsh.

When the level of the Mississippi River is high enough that leakage occurs through the Bonnet Carre structure, enough pins would be pulled to allow up to 4,000 cubic feet per second of river water to enter the spillway. The pins would be closed prior to April 1 to reduce the possibility of algal blooms in Lake Pontchartrain.

The opportunistic use of the spillway could reduce future loss in the LaBranche area by 50%. Opportunistic use of the spillway is not possible every year. However, Lake Pontchartrain and the LaBranche wetlands would receive benefits when diversion is possible.

Progress to Date

The Louisiana Coastal Wetlands Conservation and Restoration Task Force approved funding for engineering and design at the January 2000 Task Force meeting. The Lake Pontchartrain Basin Foundation partnered with the LSU Coastal Ecology Institute to develop a nutrient model for Lake Pontchartrain. The nutrient budget model has been reviewed by Louisiana Department of Natural Resources and U.S. Army Corps of Engineers. A draft operation plan has been prepared and is undergoing internal review. The project sponsors are currently scheduled to ask for construction funding at the August 2004 Task Force meeting. A draft model cost share agreement is in review.

This project is on Priority Project List 9.

For more project information, please contact:

US Army Corps of Engineers
New Orleans District

Federal Sponsor:
U.S. Army Corps of Engineers
New Orleans, LA
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Local Sponsor:
Louisiana Department of Natural Resources
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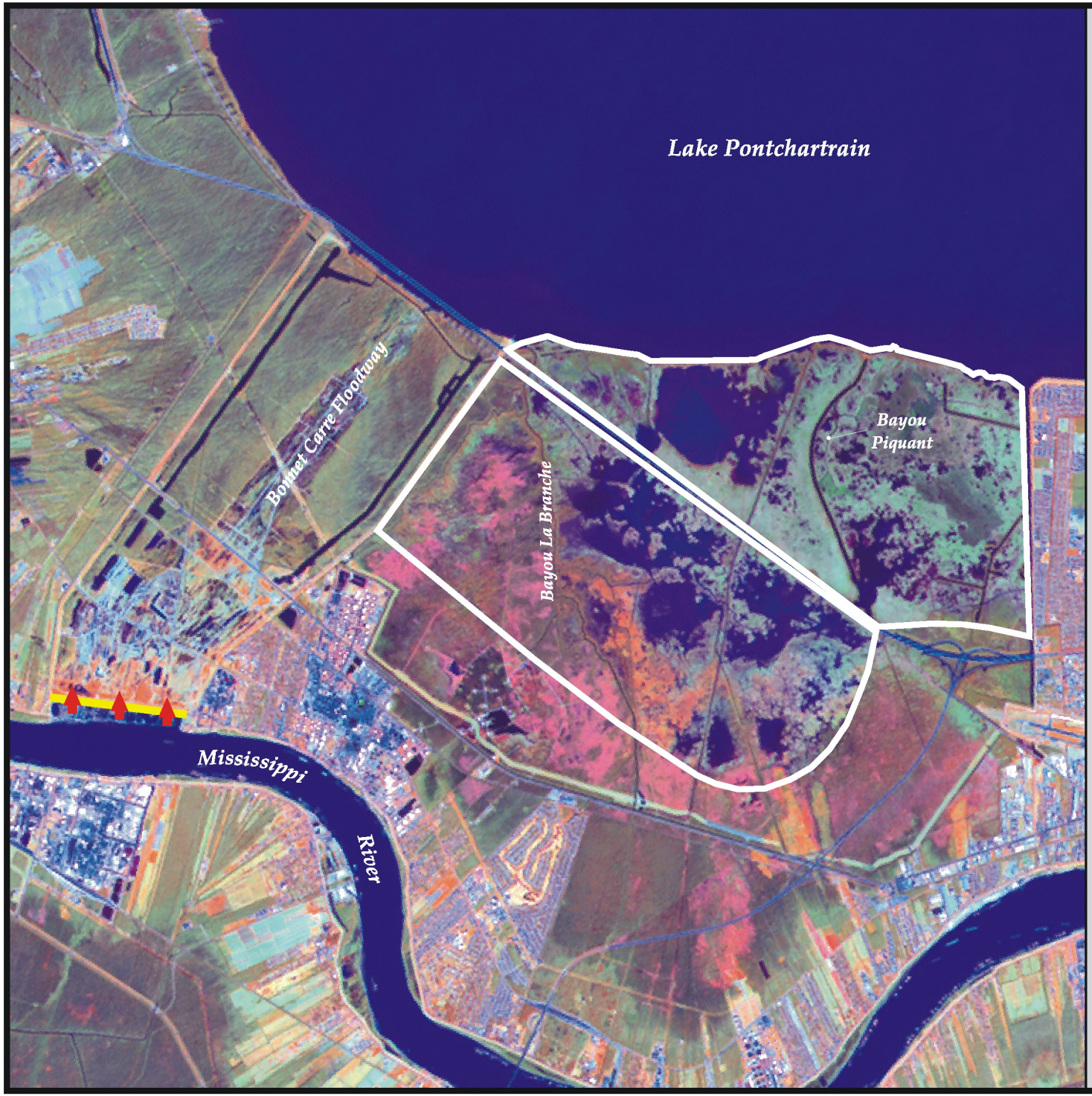
(225) 342-7308



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Bonnet Carre Structure and Pins

Project Boundary

USGS science for a changing world

Louisiana

Project Location

N

0.5 0 0.5 1 1.5 2 Miles

0.5 0 0.5 1 1.5 2 Kilometers

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station

Background Imagery:
Thematic Mapper Satellite Imagery 2002

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